

WE CLAIM:

1. A method of inhibiting GVHD in a mammal requiring DLI, the method comprising
 - 5 a) contacting the donor lymphocytes to be infused with an aqueous solution containing a therapeutically effective amount of LLME *ex vivo*;
 - b) eliminating selective cytotoxic T-cells;
 - c) infusing said donor lymphocytes into said mammal; and
 - d) inhibiting GVHD.
- 10 2. The method of **Claim 1**, wherein said mammal requires DLI following allogeneic T cell-depleted HSC.
- 15 3. The method of **Claim 1**, wherein said infusing of said donor lymphocytes into said mammal occurs after donor HSC engraftment.
4. The method of **Claim 1**, wherein said mammal is a human.
- 20 5. A method of inhibiting GVHD in a mammal requiring transplant of CD34⁺ stem cells, said method comprising
 - a) separating the HSC to be infused into CD34⁺ and CD34⁻ fractions;
 - b) contacting said CD34⁻ HSC fraction with an aqueous solution containing a therapeutically effective amount of LLME *ex vivo*;
 - c) eliminating selective cytotoxic T-cells in the CD34⁻ HSC fraction
 - 25 d) co-administering a therapeutically effective amount of said LLME-treated CD34⁻ HSC fraction with said CD34⁺ HSC fraction; and
 - e) inhibiting GVHD.